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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/070,443	06/24/2002	Yasuji Hiramatsu	221014US2PCT	9253

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EXAMINER

FUQUA, SHAWNTINA T

ART UNIT PAPER NUMBER

3742

DATE MAILED: 10/03/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Applicant(s)

10/070,443

Applicant(s)

HIRAMATSU ET AL.

Examiner

Shawntina T. Fuqua

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 June 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 June 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) ✓
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Specification

1. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

2. The abstract of the disclosure is objected to because lines 1 and 5 contain implied phrases and line 6 contains legal phraseology. Correction is required. See MPEP § 608.01(b).

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Makino (US4160897).

Makino discloses a ceramic heater comprising a ceramic substrate (column 2, lines 13-16), and a resistance heating element formed on the substrate (column 2, lines 22-29) wherein trimming is performed on resistance heating element (column 2, lines 45-49).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 2-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Makino in view of JP4-249090.

Makino discloses all of the recited subject matter except trimming on a side face or surface of the resistance heating element. JP4-249090 discloses trimming on a side face or surface of the resistance heating element (abstract). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have included trimming on a side face or surface of the resistance heating element as disclosed by JP4-249090 because, trimming on a side face or surface of the resistance heating element allows a more uniform temperature to be achieved.

7. Claims 4-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Makino as applied to claim 1 above, and further in view of Caddock (US3881162).

Makino discloses all of the recited subject matter except a resistance element formed by trimming a part of a parallel circuit. Caddock discloses a resistance element formed by trimming a part of a parallel circuit (column 3, lines 1-29; column 4, lines 1-10; column 5, lines 58-59; column 6, lines 1-4, 19-27). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have included trimming of a parallel circuit as taught by

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Caddock in the ceramic heater of Makino because, trimming a parallel circuit allows the resistance of the circuit to be adjusted.

8. Claims 7-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Makino as applied to claim 1 above, and further in view of Caddock (US4670734).

Makino discloses all of the recited subject matter except after forming a conductor layer on a given area of a ceramic substrate and firing it, a resistance element in a given pattern is formed by trimming a part of conductor via a laser ray. Caddock discloses after forming a conductor layer on a given area of a ceramic substrate and firing it, a resistance element in a given pattern is formed by trimming a part of conductor via a laser ray (column 2, line 57-column 3, line 14). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have included the forming the resistance element pattern by trimming via a laser of Caddock in the ceramic heater of Makino because, forming the resistance element pattern by trimming via a laser prevents voltage breakdown or arcing between portions of the pattern because the widths of the gaps between adjacent apexes are sufficiently large.

9. Claims 11-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ohe et al (US6256876) and Makino.

Ohe et al discloses a production system comprising a table (4), a camera (15), a memory unit (column 3, line 30), a galvano mirror (12, 14, 16, 17, 18), an input unit (column 3, line 31), an operation unit (column 3, line 30), a control unit (21), a measuring unit (column 3, lines 23-25) and system performing trimming by inputting trimming data from the input portion and stored in the memory unit, reading the position of the conductor layer via the camera, controlling the table or mirror on the basis of obtained data of the position and pattern and then storing data in

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memory, and transmitting control data from memory to control unit to perform trimming (column 3, line 1-67). Ohe et al does not disclose a resistance heating element. Makino discloses a resistance heating element. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used the production system of Ohe et al to form the resistance heating element of Makino, because, a resistance heating element can be formed and trimmed more accurately when using a production system.

10. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ohe et al in view of Makino as applied to claims 12-13 above, and further in view of Caddock ('162).

Ohe et al in view of Makino discloses all of the recited subject matter except trimming by grinding treatment. Caddock ('162) discloses trimming by grinding (column 6, lines 43-46). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have substituted the grinding treatment of Caddock in the production system of Ohe et al for making a ceramic heater as taught by Makino because, a grinding treatment allows the resistance element to be cut more efficiently.

11. Claims 14-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ohe et al in view of Makino and Caddock as applied to claims 12-13 above, and further in view of McWilliams (US3699649).

Ohe et al in view of Makino and Caddock discloses all of the recited subject matter except a mask. McWilliams discloses a mask (18). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have included the mask of McWilliams in the production system of Ohe et al for making a ceramic heater as disclosed by

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Makino via a grinding treatment as taught by Caddock because, a mask allows a more definite pattern to be formed.


Conclusion

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shawntina T. Fuqua whose telephone number is (703) 305-2581. The examiner can normally be reached on Monday-Friday 8-4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Teresa Walberg can be reached on (703) 308-1327. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0861.

stf
September 25, 2003


Shawntina Fuqua
Patent Examiner
Art Unit 3742